Abstract:

Title: Effect of brewing time on the amount of fluoride released from black tea packed in Iran and abroad and green tea.

Introduction: Since high levels of fluoride can cause fluorosis and osteoarthritis, due to the high consumption of tea in Iran and significant amounts of fluoride in tea, due to the lack of knowledge about the effect of tea on the amount of fluoride released In this study, the aim of this study was to determine the effect of tail time on the amount of fluoride released from Iranian and foreign black tea and green tea packed in Iran.

Materials & Methods: This study was conducted as an experimental study, After selecting 6 types of tea consumed in Ardabil (Ahmad, Doghzal, Golestan, green tea and Mahmoud) of each type of tea from different regions of Ardabil 6 package was prepared, Then it was examined at each time of 3-5-15-30-60-120 minutes. Then the fluoride content of the samples was measured by ion-fluoride-specific electrode, after determining the values of fluoride released in each of the examined periods, its values in ppm were recorded in the research information form and the amount of tea fluoride at any time, and by tea type, by repeated measure ANOVA and mixed analysis variance was investigated.

Results: The results of this study showed that the mean of fluoride in do gazal tea (1.007 $_{ppm}$) is lower than that of other tea, And after green tea (1.127 $_{ppm}$) was second ranked, And Ahmad tea (1.134 $_{ppm}$) third ranked; And Galin tea (1.58 $_{ppm}$) fourth ranked and Mahmood Green Tea (1.935$_{ppm}$) is ranked fifth and Golestan Tea (2.11 $_{ppm}$) is ranked sixth. The results also showed that, with increasing tail time, the amount of fluoride released from the tea was increased ($P < 0.05$).

Conclusion: This study showed that drinking a few cups of tea can increase the risk of dental fluorosis. There fore, their use, especially in children and in all people living in areas with drinking water containing high concentrations of fluoride are limited.

Keywords: Tea, brewing time, fluoride.